



## The Minuteman Repeater Association

*A non-profit organization providing communications infrastructure and volunteers for community and emergency events.*



# The Minuteman

Volume 49, Number 2

November 2019

**Membership Meeting Wednesday, 20 November 7:30 PM**

## Amateur Radio Tower Safety: Is It Time for Change?

**Jim Idelson ~ K1IR**

**Location: Marlborough Central Fire Station, 215 Maple Street (Rt. 85), Marlborough, MA (see page 11)**

**Enter through the side classroom door.**

**Talkin: 147.270**

Come learn the three simple things every ham must do to dramatically reduce the deadly risks of tower work. Recent tragic events including the loss of our friend, Joe K1JGA, and the serious injuries sustained by Mike K1EEE drove a full investigation of amateur radio tower fatalities in the US over the past 20 years. The results of the research are disturbing, but they also show us exactly what we need to do to eliminate this problem in our community.

*Jim Idelson K1IR is a lifelong ham with interests cutting across many aspects of the hobby. He is an active HF contester; he enjoys technical experimentation; he hosts a 2-meter DMR repeater at his QTH in Sudbury, MA. Professionally, Jim is founder and CEO of a company that provides consulting and analytics software for large companies using advanced collaboration tools. He also enjoys photography and playing the saxophone.*

### There will be a short Business Meeting before Jim's presentation

At the October Business Meeting the MMRA Board of Directors directed that the following items be brought to the general membership for discussion and vote. Note that per MMRA bylaws, the following improvements exceed \$500 and require a membership vote.

- (1) *Purchase one SCOM 7330 repeater controller, Raspberry Pi and accessories to upgrade the Mendon controller and make it internet accessible: \$600*

Discussion: The Mendon controller is needed to make the MMRA system 100% internet controlled. All other existing repeaters have already been upgraded. With the upgrade, control operator functions are easier and less intrusive. It also eases the process of debugging technical problems and performing controller firmware upgrades.

- (2) *Purchase one SCOM 7330 repeater controller, Raspberry Pi and accessories, and internet linking equipment to put the 224.880 repeater online at Lahey Hospital in Burlington: \$700*

Discussion: The 224.880 repeater was removed from service when 223.94 was moved from Hopkinton to Marlborough. It is now in storage. 146.715/446.775 were formerly located at Lahey Hospital in Burlington. They were moved to North Reading in 2016. This proposal is to locate 224.88 at the Burlington site (to which we still have access).

### Table of Contents

MMRA Meetings	1, 8
MMRA Information	2, 10
President's Corner / Public Service	3
From the Treasurer	4
September membership Meeting	5-6
October Business Meeting	7
Repeater Updates	8-9
Flea Markets / August Meeting Location	11

## About the Minuteman Repeater Association

### MMRA Control Operators Responsibilities

<https://www.mmra.org/MMRACOPolicy-March2019.pdf>

The Minuteman Repeater Association (MMRA) is dedicated to Amateur Radio and public service. The MMRA maintains a large system of repeaters in Eastern Massachusetts.

The MMRA meets each month from September to June. Meeting times, locations, and talk-in frequency vary and are announced in this newsletter and on weekly nets. Meetings are open to all interested parties. Guest speakers and programs of general interest occur in September, November, January, March, and May. The intervening meetings are also open to all members and are for general business.

The Minuteman newsletter is emailed one week before each general interest meeting. Members are encouraged to submit articles: send to the editor at [newsletter@mmra.org](mailto:newsletter@mmra.org). The deadline for articles is the last Friday of the month preceding the meeting.

Each Tuesday evening at 8PM the MMRA links most of the repeaters for an open net. The topic is "Technical Information and Other Stuff". Join us!

Membership in the MMRA is open to all radio amateurs. Annual dues are \$25 per individual or \$35 per family. See our website for details.

Contact information is listed on the top of the last page of this newsletter.

*No part of this newsletter can be copied or posted elsewhere without prior approval from the club.*

### MMRA QRM Policy

MMRA members and all other operators are strongly encouraged to report repeater activity that does not abide by Part 97 rules or accepted amateur radio practice to the board of directors at [contact@mmra.org](mailto:contact@mmra.org) or via other means.

The most effective way (and probably the only effective way) to deal with an individual causing QRM is to NOT engage that individual on the air. Please include the time and date of any incident.

## Repeater and Frequency Information

Band	XMTR Location	Freq	PL	Call	Linking	
					To Hub 1	To Hub 2
MMRA Voice Repeaters						
10m	Marlboro East	29.680	131.8	W1MRA	PTL	PTL
6m	Marlboro East	53.810	71.9	W1BRI	PTL	PTL
	Rmt receive Marlboro West: PL=100					
2m	Brookline	145.160	na	K1MRA	D-Star (REF050C)	
	Belmont	145.430	146.2	KC1CLA	PTL	FTL: DARI
	Mendon	146.610		K1KWP	FTL	PTL
	Quincy	146.670		W1BRI	PTL	PTL
	North Reading	146.715		KC1US	PTL	PTL
	Weston	146.790		N1BE	PTL	PTL
	Boston	146.820		K1BOS	FTL	PTL
	Remote receive in Brookline Boston: PL = 127.3					
Marlborough	147.270	146.2	W1MRA	PTL	PTL	
1½m	Marlborough	223.940	103.5	W1MRA	PTL	FTL
	Quincy	224.400		N1KUG	PTL	FTL
	Weston	224.700		N1NOM	PTL	FTL
	??????	224.880		?????	PTL	FTL
70cm	Lowell	442.250	88.5	K1LVF	FTL	PTL: 446.775
	Weston *	442.700		W1MRA	Network Hub 2 (PTL to Hub 1)	
	North Reading	446.775		W1DYJ	FTL	PTL
	Marlborough	448.225	na	W1MRA	D-Star (REF050C)	
	Hopkington	449.575	88.5	W1BRI	PTL	PTL
	Marlborough *	449.925		W1MRA	Network Hub 1	
33cm	Boston *	927.0625	D244	K1RJZ	PTL	PTL
	Marlborough *	927.700		W1MRA	PTL	PTL
		PL out = 131.8				
Marlborough		144.390	none	W1MRA	APRS Digipeater	
???		145.630	146.2	W1MRA	Fox Box	
*Internet	HUB1- 449.925: IRLP node 4133 / Echolink node 4133 Connected to Echolink NEWENG2 conference (9127) for TIAOS net.					
	HUB2 - 442.700: IRLP node 4136 / Echolink node 4136 Connected to 220 Reflector 9124 on Tuesdays					
	927.0625: IRLP 4977			Normally linked to the NE900 Reflec- tor, 9125. Linked to MMRA via IRLP node 4134 for the TIAOS net. Normally linked together.		
	927.700: IRLP 4978					

Notes: FTL = Full Time Linked (or default state) PTL = Part Time Linked (on schedule or demand)

## President's Corner ~ David Hornbaker , N1DCH

There have been two tower related deaths this year, eight in the last five years versus eight in the previous eleven years. The frequency of tower incidents is increasing! This month's meeting presentation "*Amateur Radio Tower Safety: Is it time for a change?*" will discuss this trend and present simple steps to reduce accidents. If you have a tower or think you might have one someday, I urge you to attend Jim Idelson's, K1IR presentation on Wednesday 20 November at 7:30 PM at Marlborough Central Fire Station.

**Reminder:** All memberships expire in August. If your membership expired in 2019 and you have not renewed, this will be the last newsletter you receive. Please visit [mmra.org](http://mmra.org) and renew today.

Special thanks to Bob, K1IW and Bryan, W1BRI for their tireless work maintaining our repeater systems.

## SKYWARN training – Mark your calendars!

MMRA will be sponsoring SKYWARN training on Wednesday, March 18 at 7:00 pm in the Microsoft Office in Burlington, MA. This will be an official training session presented by Ron Macedo, KD1CY. Attendees will receive a spotter ID from the National Weather Service.

### Ask your friends to become a member

Just let them know that it is not fully automated. Although they can log into the MMRA website immediately, they need to be manually processed. This could take up to week.

If you haven't updated your MMRA profile in a while, now is the time! Go to [MMRA.ORG](http://MMRA.ORG) and log in to do so.

## Public Service Activities ~ Bruce Pigott, KC1US

On the home page of the MMRA web site is the phrase: "*a non-profit organization providing communications infrastructure and volunteers for community and emergency events*" How has the Association done this in the past year?

Eight repeaters were set in special configurations in April for the Boston Marathon. Support was provided for the ALS Association bicycle tours, Sharon triathlon, Brain Tumor Ride and for the Red Cross at the Head of the Charles Regatta. The Eastern Massachusetts section Amateur Radio Emergency Service net is run on the first business Monday of each month. Talk in coverage was provided for the Algonquin ARC flea market and the Northeast HamXposition.

Another group that is quite grateful, is the Heavy Hitters Traffic Net. The combination of repeater locations and linking with Internet connection modes allows good coverage of the EMA section. The net is run four times a week at 10 P.M.

Requests from organizers looking for communications assistance has been sent to those who have indicated an interest in Public Service in their membership data. A number of MMRA hams have volunteered for these events.

## From the Treasurer: Kevin Paetzold ~K1KWP

### Notes on membership processing:

Processing membership and dues payments is a manual process that requires the secretary to process. It may take a few days for memberships to be updated even when people use the web page and Paypal.

If the payment was sent to the PO box it likely will take at least a week because first I have to service the PO box and then the Secretary will still need to process the membership.

Because this is a manual process mistakes can be made and every year there is at least one. If you believe our records are incorrect and/or that you paid and that it was not recorded. PLEASE let us know at [contact@mmra.org](mailto:contact@mmra.org).

### Recent Donations

In previous newsletters we have been listing donations. To continue that acknowledgment on behalf of the MMRA board and the MMRA membership we would like to thank the individuals below for their recent donations (since the newsletter that came out in August.):

KC1LZR

KA1TW

KC1CKZ

AF1R

N1HBR

### Membership Report/Renewals

The MMRA membership year runs from September 1 until August 31 of each year. There is a grace period for those who have not renewed from September 1 until January 1. Unless you are already renewed for 2019-2020 (or later) your membership expired on August 31 (before the Northeast HamXposition@Boxboro 2019).

168 members have already renewed or joined for 2019-2020. 190 people renewed or joined in the previous year. 43 members have already renewed for the 2020-2021 year.

## Northeast HamXposition 2019 Reports

**Jason, W1HFP — Treasurer**

**Dave, N1DCH — President**

### MMRA Raffle Winners:

1st prize: David, KD4CLJ  
Icom IC2730A Dual Band Mobile transceiver

2nd prize: John, KF1KI  
Yaesu FT-65R Dual Band Analog/Digital HT

3rd prize: John, K1FTC  
ZumSpot USB Digital Hotspot

We had 27 renewals and 4 new members

### Results of the Saturday morning MMRA sponsored VE Session:

22 Candidates

21 Passed

*Includes 7 who achieved Amateur Extra*



## 18 September 2019 Membership Meeting

### Two Ideas for Skyhooks

#### Larry Banks, W1DYJ

After purchasing a second home on the coast of Maine, Larry had to build a new ham station from scratch. This talk described the concept, design, and implementation of an 18' rotatable mast for a 6m Yagi, and a 34' mast for HF dipoles. It was not a "how to" talk, but "ideas" talk that may be yourself to others. Here is a photo from the meeting and some of Larry's slides. The full talk is at:

< <https://www.qsl.net/w1dyj/Skyhooks.pdf> >.



### Two Ideas for Skyhooks

- I - A Rotatable Mast for 6M
  - II - A 34' Mast for HF Dipoles
- Concept, Design, Implementation



Larry Banks, W1DYJ

First licensed: 1962 (novice - KN1VFX)  
W1DYJ since 1966 - Amateur Extra  
10 Matthews Way Harpswell ME  
33 Blueberry Hill Road Woburn MA

Some practical ideas for construction that you may be able to use yourself.

This is NOT a "how to" talk.  
It's an "ideas" talk.



W1DYJ / Larry Banks [www.qsl.net/w1dyj](http://www.qsl.net/w1dyj) 7B-DKCC WAS VUCC WPF

Two Ideas for Skyhooks

#### Part I - A Rotatable Mast for 6M

- Concept
  - Background, Constraints, Futures
  - Mast Location
  - Design
  - Result
- Detail Design and Implementation
  - Antenna Choice
  - Mast Design
  - Rotator Mount
  - Brackets

W1DYJ / Larry Banks [www.qsl.net/w1dyj](http://www.qsl.net/w1dyj) 7B-DKCC WAS VUCC WPF

Two Ideas for Skyhooks  
September 2019

Two Ideas for Skyhooks I - A Rotatable Mast for 6M Concept

#### Background

- Maren and I purchased a 2<sup>nd</sup> home in Harpswell, ME in 2008
- 6M has always been one of my favorite bands → I needed SOMETHING on 6M

#### Constraints

- We are there only 1/3rd of the time - not there for UPS deliveries (or mail)
- I wanted to build and erect this *by myself*
- I did not wish to put up a tower
- I only have a table saw, a drill press, and hand tools

#### Futures

- I wanted something that would handle a SteppIR DB-11 in the future

W1DYJ / Larry Banks [www.qsl.net/w1dyj](http://www.qsl.net/w1dyj) 7B-DKCC WAS VUCC WPF

Two Ideas for Skyhooks  
September 2019

Two Ideas for Skyhooks I - A Rotatable Mast for 6M Concept

#### Location

- Summer 2013: Experimented with a yagi at 18'
- Need to have the antenna above the roof line
- One "obvious" design: a mast on the 2nd floor deck
- But the yagi had to be easy to access

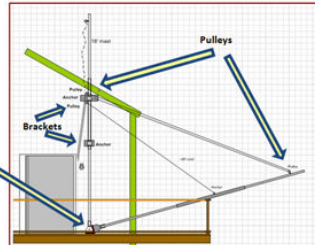


W1DYJ / Larry Banks [www.qsl.net/w1dyj](http://www.qsl.net/w1dyj) 7B-DKCC WAS VUCC WPF

Two Ideas for Skyhooks  
September 2019

Two Ideas for Skyhooks I - A Rotatable Mast for 6M Concept

#### Tilt-Over Design



W1DYJ / Larry Banks [www.qsl.net/w1dyj](http://www.qsl.net/w1dyj) 7B-DKCC WAS VUCC WPF

Two Ideas for Skyhooks  
September 2019

Two Ideas for Skyhooks I - A Rotatable Mast for 6M Design

#### Mast Design

- Need to be able to raise by myself
- Need to rotate - but rotator cannot be at the top: too heavy → rotating mast
- Needs to be strong enough for DB-11 → thick wall tubing
- Needs to be about 18' tall → too long and heavy to ship cheaply

- Multiple coaxial thin wall tubing = thick wall tubing
- Telescoping sections of thin wall (0.058") 6" Al tubing

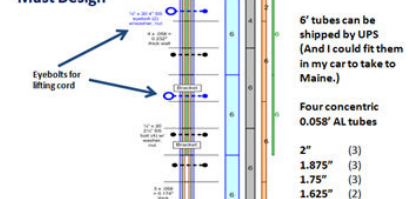
→ But How Thick???

W1DYJ / Larry Banks [www.qsl.net/w1dyj](http://www.qsl.net/w1dyj) 7B-DKCC WAS VUCC WPF

Two Ideas for Skyhooks  
September 2019

Two Ideas for Skyhooks I - A Rotatable Mast for 6M Design

#### Mast Design



W1DYJ / Larry Banks [www.qsl.net/w1dyj](http://www.qsl.net/w1dyj) 7B-DKCC WAS VUCC WPF

Two Ideas for Skyhooks  
September 2019

# 18 September 2019 Membership Meeting—continued

## Two Ideas for Skyhooks ~ Larry Banks, W1DYJ

Two Ideas for Skyhooks **I—A Rotatable Mast for 6M**

## Design

## Rotator Mount



Trailer Connectors

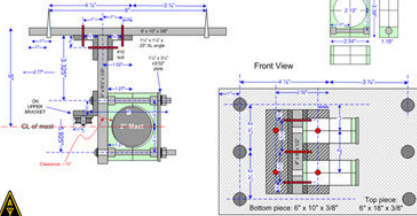
W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

Two Ideas for Skyhooks **I—A Rotatable Mast for 6M**

## Design

## Mast Bracket Design ~ 2nd Pass ~ AI



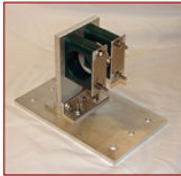
W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

Two Ideas for Skyhooks **I—A Rotatable Mast for 6M**

## Design

## Brackets ~ 2nd Pass

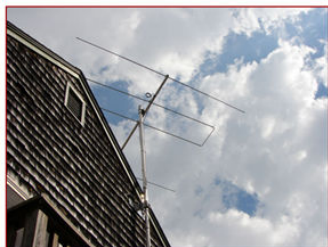


W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

Two Ideas for Skyhooks **I—A Rotatable Mast for 6M**

## Design



W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

## Two Ideas for Skyhooks

**Part II - A 34' Mast for HF Dipoles***[Evolution of an HF antenna system]*

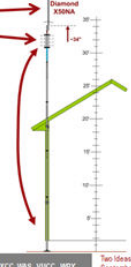
- Background – initial antennas
- Concept – replace existing dipoles / easy to raise with just me
- Design – mast / pulleys, etc
- Implementation – mast / brackets / “DDA” (Dipole Distribution Assembly)

W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

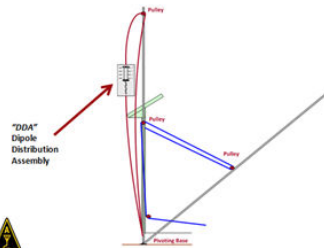
Two Ideas for Skyhooks **II - A 34' Mast for HF Dipoles** Concept

- Allow for a 2/440 stick on top
- Allow for a 4-wire fan dipole
- Allow for antenna experimentation, i.e., this must be raise and lower
- Mast needed to be both strong and light weight so I could raise it myself



W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

Two Ideas for Skyhooks **II - A 34' Mast for HF Dipoles** Concept

W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

Two Ideas for Skyhooks **II - A 34' Mast for HF Dipoles** Implementation

## Mast

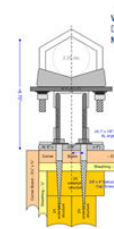


W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

Two Ideas for Skyhooks **II - A 34' Mast for HF Dipoles** Design

## Brackets

V-Bolt  
DX Engineering # DXE-CAVS-3P  
Need 2 @ \$18.55Aluminum Bar: 1/2" x 3" x 22"  
Online Metals #101-761  
4' = \$13.86 + \$18.53 shippingSS Hardware  
McMaster-Carr

W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

Two Ideas for Skyhooks **II - A 34' Mast for HF Dipoles** Implementation

## Brackets



W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

Two Ideas for Skyhooks **II - A 34' Mast for HF Dipoles** Design

## “DDA” ~ Dipole Distribution Assembly

- Fan dipole design literature shows that all wires should be parallel for best modeling
- Provide attachment points for four dipoles spaced 6"
- Include integral common mode rejection



W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

Two Ideas for Skyhooks **II - A 34' Mast for HF Dipoles** Implementation

W1DYJ / Larry Banks www.qsl.net/w1dyj 7B.DXCC WAS VUCC WPX

Two Ideas for Skyhooks September 2019

## October 2019 Business Meeting Minutes

### Larry Banks, W1DYJ ~ Clerk, *pro tem*

**Location:** New England Sci-Tech, Natick MA

**Meeting called to order at 7:30 PM local.**

Present: John – WA1MDD; Dave – N1DCH;

Jason – W1HFP; Ed – W1OED;

Bruce – KC1US; Bob – K1IW;

Ron – KE3KK; Alex – AK1MD; Larry – W1DYJ

Present via WebLink: none

#### Repeater Updates

- **Mendon**

- The previously purchased equipment intended to upgrade Mendon was used to fix Belmont when it failed
- We now need to again purchase equipment to upgrade Mendon
- Required Equipment:
  - Raspberry Pi + case & power supply - \$61
  - SCOM 7330 Controller - \$555
- Moved by W1DYJ to ask for a vote at the November meeting to purchase the needed equipment, not to exceed \$700; seconded by WA1MDD; vote was unanimous

- **North Reading**

- 146.715 was generating a spur on 146.58, system taken down and moved to W1BRI's garage for diagnosis and repair
- 446.775 is now misbehaving, generating a squeal whenever it is keyed up directly. (Link is OK). Needs to be diagnosed.

- **Marlboro East**

- 6m tone issue has been fixed, link radio issue still needs work

- **Weston**

- 2m was reported to have dropped out for 30 minutes during the TlaOS net of 15 October. No other reports.

#### Meetings

- November Membership: K1IR Tower Safety (Marlborough Fire)
- December Business: (Marlborough Fire)
- January Membership: TBD/TBD
- February Business: TBD
- March Membership: W1DYJ Antenna Modeling (MSFT Burlington)
- April Business: TBD
- May Annual Meeting: TBD / Campion Center?

**NOTE:** some of these may change

- Other locations suggested

- Northborough library
- Hudson Fire
- Tatnuck seller, Westboro
- *Other suggestions?*

#### Public Service

- Algonquin Amateur Radio Club looking for help for Halloween Night

#### Newsletter

- Please get newsletter content to Larry by 1 November

Executive session requested by Larry, W1DYJ, at 8:20 PM local.

Executive Session ended at 8:25

**Move to adjourn: 8:25 by W1DYJ.**

Submitted by Larry, W1DYJ, Clerk pro-tem



## The Saga of North Reading

### Larry, W1DYJ with lots of help from Bryan, W1BRI & Bruce, KC1US

#### The Problem

During the TlaOS net of 3 September (I was net control) we had a non-member, N1LHP (Doug, from Wilmington) break in to tell us we were interfering with his net on simplex channel 146.580. This was the first, and only, report of this interference, but we took it seriously and deferred our net until Doug had finished his. With no other reports, we brainstormed the potential causes and decided that there was either 1) a cross-band repeater that was inadvertently left active by whoever set it up or 2) a real issue with one of our repeaters.

We asked our membership for any reports of this abnormal transmission on 146.580, but none were received. On 17 September during the TlaOS net I was able to investigate the issue. I did hear a very faint signal on 146.58 that was coincident with our net. Something was definitely wrong! Again we asked the membership for additional reports of this signal and received none.

Before the net of 1 October I was finally able to faintly hear the 146.715 North Reading VHF repeater's ID on 146.58. We had finally located the offending repeater. I am seven miles from the North reading site with "line-of-sight" antennas, so the interfering signal was indeed very faint. During that evening's net, K1LHP again broke into the net to tell us he had driven to the site and could hear the interfering spur quite strongly at the site, corroborating my findings. We shut down the repeater after the net concluded.

Bryan, W1BRI, immediately developed a number of scenarios that could cause the spur. Bruce, KC1US, visited the site on 4 October to run a number of tests to diagnose the problem. The conclusion was obvious: the repeater and duplexer had to be pulled and looked at on the bench. Bruce and Bryan a few days later returned to retrieve the system.

The repeater site was in an interesting state with lots of detritus of various sorts, including the squirrel damage in the photo. Bruce spent a lot of time removing branches, limbs, and brush. As Bruce stated: "I can stay home and finish

*picking up branches and doing yard work."* **Thanks Bruce for all of your work!**



#### The Fix

Bryan, W1BRI, spent much time reworking the repeater. From Bryan:

I completely re-wired it. The original repeater had wires with Molex pins plugged into Molex connectors, I didn't like that so I soldered all wires with heat shrink and organized wires neatly. I also fixed power wires with Anderson Powerpoles for easy removal. I also cleaned up the MASTR II box with Windex, it was very dirty.

Then I re-tuned the exciter. It had a missing slug on one of the coils so output power was about 100mW instead of 250mW. Then I re-aligned the exciter. Before doing



## The Saga of North Reading ~ continued

any work I did see the 146.58 spur, after fixing the exciter the spur is gone.

On the PA the screws holding the RF power transistors to the heat sink were all loose; I had to remove a large heat sink off the PA to get at small nuts on the back of the screws to tighten them. All 3 power transistors had loose heat sink screws, I'm surprised in didn't burn out the transistors.

Finally, I complete re-tuned the duplexer per the TX RX tuning instructions. Afterwards I set the PA TX output power to 60W.

**Testing the system in  
Bryan's living room.**



On 23 October Bryan, W1BRI and Bruce, KC1US traveled back to North Reading to install the newly re-worked repeater. All now seems to be well.

### Another Issue!

To make the situation even more interesting, shortly after Bryan, W1BRI, and Bruce, KC1US, removed the VHF repeater from the site, the UHF 446.775 repeater started acting up. Fine when activated from the Hub's link radio, when keyed up directly the repeater went into a sustained squeal until it timed out and transmitted its ID (my call sign, W1DYJ.) North Reading VHF is a Fusion system, and we don't understand what caused this squeal at this point. However, reinstalling the VHF repeater, including power cycling the Fusion repeater solved the problem. If any of you hear this again, please send an email immediately to [contact@mmra.org](mailto:contact@mmra.org).

### The Amateur's Code

#### The Radio Amateur is:

**CONSIDERATE**...never knowingly operates in such a way as to lessen the pleasure of others.

**LOYAL**...offers loyalty, encouragement and support to other amateurs, local clubs, and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally.

**PROGRESSIVE**...with knowledge abreast of science, a well-built and efficient station and operation above reproach.

**FRIENDLY**...slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interests of others. These are the hall-marks of the amateur spirit.

**BALANCED**...radio is an avocation, never interfering with duties owed to family, job, school or community.

**PATRIOTIC**...station and skill always ready for service to country and community.

Paul M. Segal, W9EEA, 1928

### Clay Center Cleanout Bob DeMattia, K1IW



**Clay Center  
Cleanup  
Participants:**  
K1IW, KC1LPZ,  
K2VUD K1YSO,  
W3EVE, KC1IUN,  
KC1ANR

#### Note to the participants, from Bob:

I would just like to send all of you a big thank you for the work this morning, 2 November. The Clay Center has sent a thank you to me for helping clean up their room. This is good for the club because it shows our appreciation for the school letting us house our equipment. As you all saw, it is a great site to have a repeater.

## Upcoming MMRA Meetings

Note: Meeting locations and times are subject to change.

Consult the MMRA website for the most up-to-date information.  
Teleconference numbers will be available one week before a business meeting—if you wish to attend, email [contact@mmra.org](mailto:contact@mmra.org).

Sunday, 8 Sept ~ Northeast HamXposition @ Boxboro Noon

Wednesday, 18 September ~ Membership Meeting ~ 7:30 PM  
Two Ideas for Skyhooks Larry Banks, W1DYJ  
Location: New England Sci-Tech Inc., Natick

Wednesday, 16 October ~ Business Meeting ~ 7:30 PM  
Location: New England Sci-Tech Inc., Natick

Wednesday, 20 November ~ Membership Meeting ~ 7:30 PM  
Amateur Radio Tower Safety: Is It Time for Change? Jim Idelson ~ K1IR  
Location: Marlborough Central Fire Station

Wednesday, 18 December ~ Business Meeting ~ 7:30 PM  
Location: Marlborough Central Fire Station

Wednesday, 15 January ~ Membership Meeting ~ 7:30 PM  
Speaker/Topic: TBD  
Location: TBD

Wednesday, 19 February ~ Business Meeting ~ 7:30 PM  
Location: TBD + Teleconference

Wednesday, 18 March ~ Membership Meeting **Note: 7:00 PM Start**  
SKYWARN Training Rob Macedo, KD1CY  
Microsoft Burlington

Wednesday, 15 April ~ Business Meeting ~ 7:30 PM  
New England Sci-Tech Inc., Natick + Teleconference

Wednesday, 20 May ~ Annual Meeting & Elections ~ 7:30 PM  
Antenna Modeling: TLW, YW, and HFTA Larry Banks, W1DYJ  
Location: Campion Center, Weston

Wednesday, 17 June ~ Business Meeting ~ 7:30 PM  
Location: TBD + Teleconference

## Don't Forget! Join Us.

Every Tuesday @ 8 PM

Technical, Informational and Other Stuff Net

The MMRA's repeaters are linked Tuesday nights for the TIOS Net. Keep up with what's happening in the MMRA and ask your ham related questions.

### Net Control Operators:

Week 1	W1DYJ	Larry Banks
Week 2	WA1JIM	Jimmy Devaire
Week 3	KC1CLA	Ed Curley
Week 4	K1KWP	Kevin Paetzold
Week 5	KB1OQA	Tom Turner

To connect using Echolink / IRLP during the Net:

- Echolink Conference \*NEW-ENG2\*
- IRLP node 4133

Previous issues of the MMRA Newsletter are available at:  
[www.mmra.org](http://www.mmra.org) → [Newsletter Archive](#) (on the left)

## MMRA Leaders

### Executive Board — Officers

President	David Hornbaker	N1DCH
Vice President	John Spencer	WA1MDD
Secretary	Jason Peardon	W1HFP
Treasurer	Kevin Paetzold	K1KWP
Clerk	Charles Miller	KC1JUO

### Executive Board — Directors

Director »2020	Clark Conti	N1NVK
Director »2020	James Lee	N1DDK
Director »2021	Bob DeMattia	K1IW
Director »2021	Roger Coulson	WA1NVC

### Technical Officer

Technical Officer	Bob DeMattia	K1IW
-------------------	--------------	------

### President Emeritus

Bob DeMattia	K1IW
--------------	------

### Technical Officer Emeritus

Bryan Cerqua	W1BRI
--------------	-------

### Repeater Trustees

* Belmont 145.430	Ed Curley	KC1CLA
* Boston 146.820	John Mullaney	K1BOS
* Brookline 145.16	Joyce DeMattia	K1IWW
* Brookline Rcv 146.82	Bob Phinney	K5TEC
* Boston 927.0625	Rick Zach	K1RJZ
* Hopkinton 449.575	Bryan Cerqua	W1BRI
* Lowell 442.250	Vince De La Flor	K1LVF
* Marlborough 53.810, Quincy 146.670;		
	Bryan Cerqua	W1BRI
* Marlborough: 29.68, 144.390, 147.270, 223.940, 442.700		
448.225, 449.925, 927.700 — all as W1MRA		
	Bill Northup	N1QPR
* Mendon 146.610	Kevin Paetzold	K1KWP
* N. Reading 146.715	Bruce Pigott	KC1US
* N. Reading 446.775	Larry Banks	W1DYJ
* Quincy 224.400	Bill Dunn	N1KUG
* Weston 146.790	Bob Evans	N1BE
* Weston 224.700	Eddie Mulhern	N1NOM

### Additional, non-Voting

* Newsletter Editor	Larry Banks	W1DYJ
* Emerg. Coord.	Kevin Paetzold	K1KWP
* Pub. Serv. Coord.	Bruce Pigott	KC1US
* VEC Liaison	Bill Wade	K1IJ
* Net Manager	Larry Banks	W1DYJ
* Web Page Editor	Bob DeMattia	K1IW

\* Appointed

## MMRA VE Sessions

Check here for the schedule:

<http://www.mmra.org/exam.html>

Contact: Bill Wade, K1IJ 617-699-3670  
Evenings 6 - 10 PM Weekends 8 AM to 10 PM.

## Contacting the MMRA



Members: [MMRA@yahoogroups.com](mailto:MMRA@yahoogroups.com)

*Note: send a request. You must be added by the moderator.*

Officers: [contact@mmra.org](mailto:contact@mmra.org)

Control Ops: [control-ops@mmra.org](mailto:control-ops@mmra.org)



<http://www.mmra.org/>



@mmraham



<https://www.facebook.com/mmraham>

## Calendar of Ham Radio Flea Markets & Gatherings

For more information: <http://mit.edu/w1gsl/Public/ne-fleas>

6 Oct Queens NY HOSARC @HOS

11,12 Oct Deerfield NH

NEARfest XXVI @FG

13 Oct Meriden CT Nutmeg  
@Sheradon

20 Oct Cambridge MA Flea at MIT

26 Oct Gales Ferry CT TCARC @FireCo

27 Oct Hicksville NY LIMARC @LevitHall

2 Nov Bourne MA FARA @CC Voc Sch

7 Dec Windsor CT

VR+CMus

@ Antique

18 Jan Whitman MA

WARC @KoC

15 Feb Marlboro MA

AARC @MidSch

7 Mar Chicopee MA

MtTARA @Castle

29 Mar Southington CT

@HS

10,11 Apr Lewiston ME

AARC @ Ramada

26 Apr Thompson CT

ECARC @Raceway

Marlborough Central Fire Station, 215 Maple Street (Rt. 85)

Marlborough, MA

*Enter through the side classroom door.*

